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Statement of Work Improving C1/C2 Commercial Marine Activity and Emission Estimates

I. Contractor Name: ERG Contract #: EP-D-11-006

WA #: 2-04

II. Work Assignment Manager (WAM):

WAM Name: Laurel Driver

U.S. Environmental Protection Agency Office of Air Quality Standards and Planning

Phone: (919) 541-2859

III. Background:

Comparison of results from CMAQ modeling with ambient monitors has shown excessive emissions in several large ports. Comparison of NEI inventories with those developed by several large ports has shown that the inventories of commercial C1/C2 emissions used for the air quality modeling and for the NEI are roughly an order of magnitude larger than the local port authority inventories. EPA suspects that these differences are the result of the simplistic method of spatially allocating commercial C1/C2 emissions from national totals to local areas. In the case of commercial C1/C2, these allocations were allocated 75% in port and 25% underway. The in-port emissions were allocated to the 150 largest ports only on the basis of the cargo tonnage of these ports.

The purpose of this WA is to apply the previous work done by ERG and reported in "CATEGORY 2 VESSEL CENSUS, ACTIVITY, AND SPATIAL ALLOCATION ASSESSMENT AND CATEGORY 1 AND CATEGORY 2 IN-PORT/AT-SEA SPLITS," February 16, 2007, and the accompanying database to produce spatial allocation factors suitable for air quality modeling and for the NEI. For short, this report is referred to below as the C2 Census Report.

IV Tasks

Task #1: Work Plan and Progress Review

The Contractor shall develop a work plan. The work plan will identify methodologies for the various tasks below. The Contractor shall hold conference calls with the WAM as needed to plan and review progress of this WA.

Task #2: Develop spatial allocation factors

The contractor shall develop a methodology for going from the spatial allocation in the C2 Census Report to the shape files used in the Emission Inventory System (EIS). If necessary, additional shape IDs will be added to cover the allocations, for example in the Gulf of Mexico.

The contractor shall apply the methodology to produce the allocation factors.

The contractor shall develop and apply QA procedures to this work. Product is

- set of allocation factors in format, as approved by OAQPS
- all supporting data, scripts, and custom software developed for this task
- a report explaining the methodology

Task #3: C1/C2 Emissions Estimates for 2011

The contractor shall develop hazardous air pollutant estimates from national pollutant emission estimates for 2011 C1/C2 marine vessels provided by the WAM. The contractor shall allocate these emissions to port and underway shape IDs based on the allocation procedures developed in the previous task. The contractor shall provide all necessary fields for the WAM to submit to EIS. The contractor shall provide documentation of for this task.

V. Deliverables:

The Contractor shall adhere to the following schedule:

Task	Deliverable	Delivery Schedule
1	Work Plan	20 days after effective date of WA
2	Draft Allocation Report	8 weeks after acceptance of work plan
3	Final Allocation Report and related files	2 weeks after receipt of EPA comments
4.	Emissions and Documentation	4 weeks after EPA comments

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Title: Improving Emission Estimates

Contractor Name: ERG Contract #: EP-D-11-006 WA: 2-04 Change 2

Additional Tasks:

Task #4:

The contractor shall develop hazardous air pollutant estimates from national pollutant emission estimates for 2011 C3 marine vessels provided by the WAM. By technical direction from the WAM, in consultation with EPA's Office of Transportation and Air Quality (OTAQ), the contractor shall allocate these emissions to port and underway shape IDs based on the allocation procedures. The contractor shall provide all necessary fields for the WAM to submit to EIS. The contractor shall provide documentation for this task.

Task #5:

The contractor shall compile Aircraft exhaust, ground support, and auxiliary power unit emission of criteria and hazardous air pollutants for the base year 2011, using FAA's EDMS model and emissions factors provided by EPA OTAQ. The contractor shall provide all necessary fields for the WAM to submit to EIS. The contractor shall provide documentation for this task.

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Task #6: Assist State/Local agencies in creating input files

The contractor shall collect necessary modeling input files for an estimated four agencies each for NCD and CDB inputs. The contractor shall work directly with agencies to prepare these files from model runs the agencies have prepared and use these files to prepare inputs for the 2011NEI runs of NMIM and MOVES. The contractor shall prepare the files in the proper format for submittal to EIS for the agencies to submit.

Task #7: QA and preparation of state/local inputs to NONROAD national county database (NCD) and MOVES county database (CDB)

The contractor shall collect the submitted NCD and CDB data from EPA's Emission Inventory System (EIS) for the 2011NEI. The contractor shall run QA checks and consult with state/local agencies as necessary to prepare these inputs for NMIM NONROAD and MOVES runs for the 2011 NEI. The contractor shall provide documentation for the data collection, QA, and contents of the inputs.

Task #8: NONROAD model runs via NMIM

The contractor shall prepare NMIM NONROAD emissions for a single test case (a one-state run to compare to a national run, year to be determined) in order to assure methodology. The contractor shall also prepare anational run for year 2011 for the NEI for 50 US states and Puerto Rico and US Virgin Isles. The contractor shall deliver monthly emissions in SMOKE format as specified by the WAM. The contractor shall document run parameters for approval prior to run, using a template supplied by the WAM. The contractor shall provide documentation for the 2011 NEI on that base year's run.

Deliverable	Due Date
Monthly progress reports	Ongoing
Task 6: Input files	December 31, 2012
Task 7: QAed NCD/CDB national files	January 25, 2013
Task 8: Test Run	December 7, 2012
Task 8: 2011 NONROAD output	February 15, 2012
Task 8: 2011 NONROAD documentation	February 28, 2013

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